

### AMENDMENTS TO THE CLAIMS

1. (Currently amended) An isolated proteoglycan composition comprising a proteoglycan gel filtration fraction, the gel filtration fraction having the following characteristics ~~whose main component:~~
  - a) the gel filtration fraction is derived from a water extract of pulverized shark cartilage ~~of cartilaginous fish;~~
  - b) the gel filtration fraction has a proteoglycan component with a molecular weight of 500 kDa or more as defined by gel filtration fractionation using Superdex<sup>®</sup> 200;
  - c) the proteoglycan component of the gel filtration fraction is insoluble in an alcohol; ~~and~~
  - d) the proteoglycan component of the gel filtration fraction has a glycosaminoglycan part mainly composed of chondroitin sulfate C, and
  - e) a protein content of the gel filtration fraction has an amino acid composition as shown in Figure 2.

Claims 2.- 9. are canceled.

10. (Currently amended) A pharmaceutical composition, comprising the isolated proteoglycan composition of ~~any one of Claim[[s]] 1 or 4 to 7~~ as an active ingredient.
11. (Currently amended) A method of producing a proteoglycan composition, comprising the steps of:
  - a) pulverizing ~~cartilaginous fish derived~~ shark cartilage into a pulverized product with an average particle diameter of 100  $\mu$ m or less in liquid nitrogen;
  - b) adding water to the pulverized product of the preceding step a) and extracting water-soluble components from it;
  - c) separating an aqueous phase that contains the extracted water-soluble components;

- d) partially separating and removing extracted water-soluble components below 6 kDa,
- e) adding an alcohol to the aqueous phase to produce a precipitate, ~~and~~
- f) gel filtration purification of the precipitate to isolate the extracted water-soluble components having a gel filtration estimated molecular weight of 500 kDa or more, and
- g) selecting gel filtration fractions correlated with a MMP-9 inhibition activity and a MMP-2 inhibition activity.

12. (Canceled)

13. (New) A method for inhibiting by at least 5%, a matrix metalloprotease MMP-9 activity in a blood serum of a tumor-bearing animal comprising the step of orally administering an effective amount of the proteoglycan composition produced by the method of claim 11.

14. (New) A method for inhibiting cathepsin B activity in a blood serum of a tumor-bearing animal comprising the step of orally administering an effective amount of the proteoglycan composition produced by the method of claim 11.